

# **Chinese marine fishery research/management and US-China collaboration on China Coast Watch**

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# Outline

1. Chinese fishery and fishery management organizations
2. An introduction to Shanghai Fishery University (SFU)
3. SFU collaborates with NOAA CoastWatch on developing China CoastWatch
4. Preparation on setting up a SFU-NOAA joint center on ocean remote sensing and marine fishery resources management

# 1. Brief Introduction to Chinese Fisheries

## Production:

- **490 million ton in 2004**
- **510 million ton in 2005.**

**Aquaculture --- 67% of total fisheries production.**

**Capture production---16.93 million ton in 2004**

**Major species:** large head hairtail, file fish, pacific herring, chub mackerel, squid, Japanese Spanish mackerel and prawn.

# 1. Brief Introduction to Chinese Fisheries

## **Fishery Management includes:**

- **the biology of fisheries resources**
- **the ecology of the environment**
- **the demand of the nation for fish**
- **employment**
- **economics of fisheries, etc.**

# 1. Brief Introduction to Chinese Fisheries

## **Fishery Management problems include:**

- **over-fishing**
- **excess fishing capacity**
- **water pollution**
- **the expansion of the population of fishermen adds great pressure on fisheries because more employment is needed.**
- **fishing grounds are reduced largely and the inshore areas is facing the greater fishing pressure.**



# 1. Brief Introduction to Chinese Fisheries

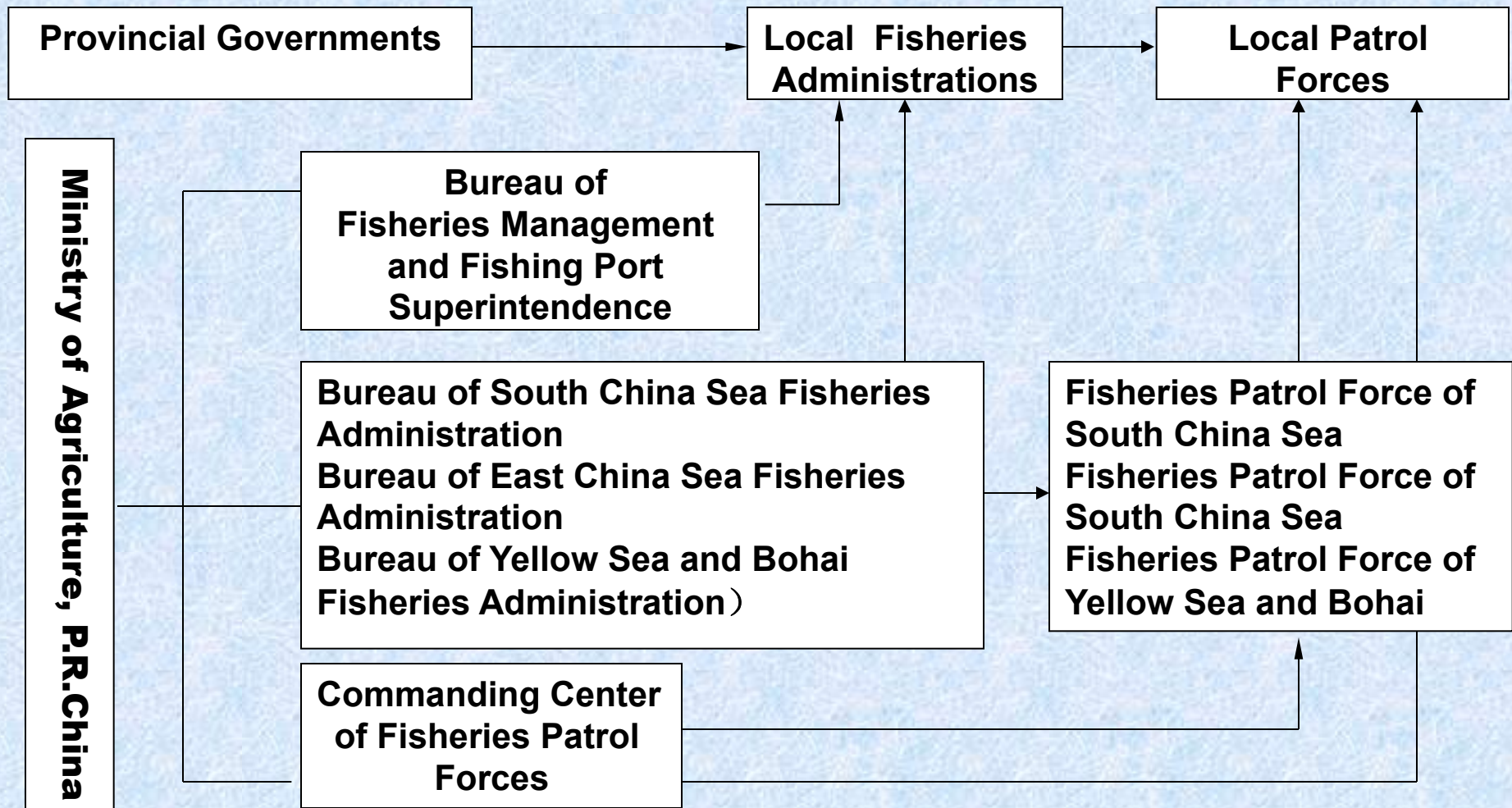
## China fishery policy:

- moving in a new direction---a sustainable utilization of fishery resources

## China fishery management measures to reduce fishing effort and conserve fishery resources

- Fishing license
- Closed season and closed area
- Minimum mesh size
- Prohibition of use of some fishing gears and fishing methods.

# The organizational structure of Chinese Fisheries Administration



# 1. Brief Introduction to Chinese Fisheries

## **Chinese fishery research and educational institutes:**

### **University:**

- ***Shanghai Fishery University***

### **Chinese Fishery Research Institutes**

- ***The South China Sea Fisheries Research Institute (Guangzhou)***
- ***The East China Sea Fisheries Research Institute (Shanghai)***
- ***The Yellow Sea and Bohai Fishery Research Institute (Qingdao)***



# 1. Brief Introduction to Chinese Fisheries

## Chinese fishery research subjects:

- fishery resources
- fish modal taxonomy,
- nutritional physiology & feed
- aquaculture biology
- artificial breeding
- aquaculture technology
- fish & shrimp illness prevention and cure
- fishing gear and fishing method
- aquatics processing
- fishery environment
- fishery management

## 2. An introduction to Shanghai Fishery University





## **2. An introduction to Shanghai Fishery University**

- **Established in 1912 and located on the bank of the Huangpu River in Shanghai**
- **2 campus**
- **Will relocate to a 120 acre campus in Shanghai suburb in 2008**
- **It is a multi-disciplinary university focusing on the coordinated development in the field of aquaculture, marine fisheries, food science, fishery economics, marine and fishery laws, computer science, the humanities.**

## 2. An introduction to Shanghai Fishery University

**Take nationwide lead in following academic research fields:**

- **Aquaculture**
- **Marine fisheries**
- **Marine environment**
- **Food science and engineering**
- **Fisheries economics**
- **Fisheries law**
- **Conservation and management of fishery resources**
- **Fisheries management**

## 2. An introduction to Shanghai Fishery University

### 11 colleges:

- College of Marine Science and Technology
- College of Life Science and Technology
- College of Food Science and Technology
- College of Economics and Trade
- College of Humanities
- College of Information Engineering
- Etc.

### Faculty and students:

- 1000 faculty members
- 15000 students (Ph.D., M.S., and undergraduates)



## 2. An introduction to Shanghai Fishery University

### International cooperation:

- Established long-term academic cooperation with more than 40 foreign universities and research institutions



**Cooperative education with  
University of Tasmania, Australia**



**Prime Minister of Republic of the  
Fiji Islands Laisenia Qarase visits  
Shanghai Fisheries University**

### 3. China CoastWatch

**Joint effort among NOAA CoastWatch and Chinese ocean remote sensing community: State Oceanic Administration, Chinese Academy of Science, Universities.**



First China CoastWatch meeting at the Shanghai Fisheries University in July 2005

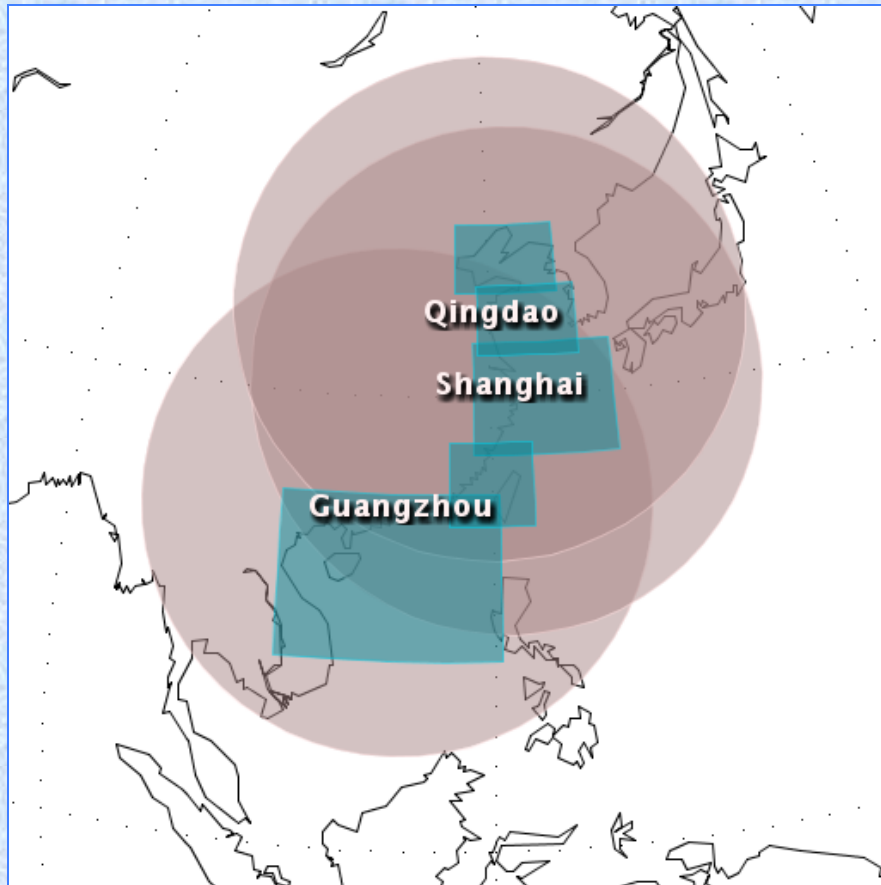


China CoastWatch operations center at State Oceanic Administration First Institute of Oceanography in Qingdao

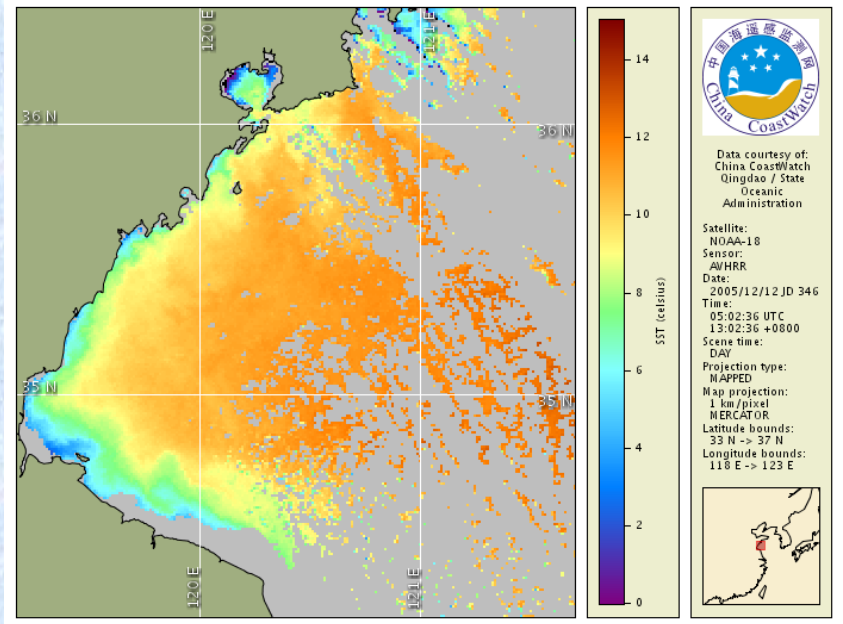


### 3. China CoastWatch

<http://www.coastwatch.gov.cn>



3 China CoastWatch nodes in  
Qingdao, Shanghai and Guangzhou



Sample:  
Sea surface temperature product from  
NOAA satellite in Bohai, Yellow and  
East China Seas

## 4. SFU-NOAA joint center on ocean remote sensing and marine fishery resource management

Purposes: enhance collaborations in China CoastWatch and remote sensing applications in fishery resource management

- Satellite remote sensing data and products exchange
- Visiting exchange
- Link between NOAA and China CoastWatch
- Server as a bridge between USA and Chinese marine fishery scientists and managers
- Provide value-added fishery products to local and State fishery resources managers

## 4. SFU-NOAA joint center on ocean remote sensing and marine fishery resource management

### Satellite remote sensing data and products exchange

- NOAA CoastWatch products:
  - Global or regional SST (AVHRR, GOES)
  - Sea Surface Height
  - Chl a (MODIS)
  - Upwelling index maps
- China CoastWatch products:
  - Existing SST products (AVHRR)
  - SST in the development
    - Chinese FY-1D satellite
    - MTSAT geostationary satellite



## **4. SFU-NOAA joint center on ocean remote sensing and marine fishery resource management**

### **Visiting exchange**

- **Shanghai Fishery University delegation visits USA in May 2006**
- **NOAA delegation visits Shanghai in Dec. 2006 for joint center opening ceremony**
- **NOAA remote sensing and fishery scientists teach 1 or 2 short graduate student courses or seminars at SFU**

## **4. SFU-NOAA joint center on ocean remote sensing and marine fishery resource management**

### **NOAA CoastWatch and China CoastWatch link**

- **Share the technology and software in data processing and distribution**
- **Data and products are in the same format**
- **Joint develop new products, i.e. SST products from Chinese FY-1D and FY-2C satellites**
- **Hold bi-annual workshop at the joint center in SFU campus**

## 4. SFU-NOAA joint center on ocean remote sensing and marine fishery resource management

### Provide data and product for fishery management applications

- **Value-added products for fishery managers for both local and state managers**

Thank You!

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